UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland	
Site ID: R077XA017NM	
Site Name: Sandy Plains	
Precipitation or Climate Zone:	15 to 16 inches
Phase:	

PHYSIOGRAPHIC FEATURES

Narrative:		
This site occurs on nearly level to ulandscape is hummocky. Elevation		
Slopes are usually from 0 to 8 perc	ent. The exposure varies and i	s not significant.
Land Form:		
1. Plain		
2. Sand sheet3.		
3.		
A spoot.		
Aspect: 1. N/A		
2.		
2. 3.		
	Minimum	Maximum
Elevation (feet)	4,300	6,200
Slope (percent)	0	8
Water Table Depth (inches)	54	>72
Flooding:	Minimum	Maximum
Frequency	Rare	Occasional
Duration	Very brief	Brief
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A
D eff Cl		
Runoff Class:		
Negligible to medium.		

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Precipitation averages from about 15 to 16 inches annually, with approximately 75 percent of this yearly moisture falling during the period of May through October. Most summer rainfall is associated with usually brief afternoon and evening thunderstorms, which occasionally produce heavy rain over a small area, and sometimes brings a little hail. Winters are generally dry with only one or two days a month when as much as one-tenth inch of moisture falls. However, winters average 20 inches of snow though most snowfalls are light with an occasional storm producing up to six inches. Following these storms, snow may lie on the ground for several days and occasionally moderate to strong winds accompanying these storms result in blizzard conditions and heavy drifting. Although the precipitation patterns favor the production of warmseason plants, sufficient moisture is received in the late winter and the spring to support coolseason plants. Approximately 25 percent of the annual precipitation is received during April and May. May is generally the wettest month followed by July then August.

Temperatures show the seasonal changes and large annual and diurnal ranges, characteristic of such a climate. Summers are generally mild; high daily temperature readings exceed 90 degrees F about one-third of the time, and readings of 100 degrees F occur about once a year. Rapid cooling after sundown results in minimum temperatures below 60 degrees F on most nights, even in midsummer. Winter shade temperatures usually rise to the mid 40's, and an average of only 15 days fail to see temperatures rise above the freezing mark. Winter nighttime temperatures fall below the freezing mark most of the time from early November through March; below zero readings occur on an average of only three times a year.

The freeze-free season ranges from 168 days to 171 days between April 28th to October 16th. Both temperatures and annual precipitation favor warm-season plants. About 40 percent of the annual precipitation is received during the season where temperatures will benefit cool-season plants, and only 10 percent falls during the dormant season.

While open to winter invasions of arctic air over the Great Plains, this area is far enough south and west to miss many of these outbreaks. Mountains to the north and west intercept much of the precipitation from the Pacific northwest storms coming through this area during the winter. An average hourly wind velocity for the year is 15 miles per hour. Somewhat higher winds prevail during the spring months, but velocities exceeding 24 miles per hour are experienced only 10 percent of the usual year. Stronger winds blow chiefly from a westerly or southwesterly direction during the spring. Relative humidity is moderately low.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

Minimum

Maximum

Frost-free period (days):	158	191
Freeze-free period (days):	177	220
Mean annual precipitation (inches):	15	16

Monthly moisture (inches) and temperature (⁰F) distribution:

·	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.28	.38	18.5	50.1
February	.32	.40	21.9	58.7
March	.64	.69	26.3	61.6
April	.89	1.35	34.2	70.9
May	2.08	2.56	43.6	79.3
June	1.82	2.07	52.5	88.4
July	2.60	2.93	57.5	91.7
August	1.68	2.97	56.1	89.5
September	1.55	1.90	49.3	82.8
October	1.10	1.32	38.0	79.2
November	.41	.60	26.8	59.9
December	.38	.50	20.1	51.3

Climate Stations:							
					Perio	d	
Station ID	290377	Location	Amistad 3ESE, NM	From:	04/01/25	To:	12/31/01
Station ID	291887	Location	Clayton WSO Airport, NM	From:	2/1/1896	То:	12/31/01
Station ID	293878	Location	Hayden, NM	From:	01/01/14	To:	09/30/65
Station ID	295937	Location	Mosquero, NM	From:	12/01/15	To:	12/31/01
Station ID	297638	Location	Roy, NM	From:	01/01/14	То:	12/31/01

INFLUENCING WATER FEATURES

Narrative: This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils of this site are deep, and well drained. The surface textures are fine sand or loamy fine sand from 8 to 20 inches thick. The texture of the argillic subsoil is sandy clay loam or fine sandy loam. In some soils, a calcic horizon occurs at a depth of 12 to 20 inches. The soils have a moderately rapid to moderate permeability. The available water-holding capacity is moderate to high. The plant-soil-air-water relationship is good. Effective rooting depth is 60 inches or more. These soils are particularly susceptible to wind erosion when vegetative cover is reduced.

Parent Material Kind: Eolian sands

Parent Material Origin: Sandstone-unspecified

Surface Texture:

- 1. Loamy fine sand
- 2. Loamy sand
- 3. Clay loam

Surface Texture Modifier:

1. N/A	
2.	
3.	

Subsurface Texture Group: Sandy

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 0 to 27
Subsurface Fragments >=3" (%Volume): 0 to 2

	Minimum	Maximum
Drainage Class:	Somewhat poorly	Somewhat excessively
Permeability Class:	Impermeable	Moderately rapid
Depth (inches):	60	>72
Electrical Conductivity (mmhos/cm):	0.00	16.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:	
Ecological Dynamics of the Site.	
Plant Communities and Transitional Pathways (diagram)	

Plant Community Nan	ne: Historic Climax Pl	ant Community			
Plant Community Seq	uence Number: 1	Narrative Label:	НСРС		
Plant Community Narrative: Historic Climax Plant Community This site is a grassland dominated by warm-season mid-grasses. Tall grasses, cool-season grasses and forbs make up an important component of the plant community. Woody plants make up a minor component.					
Grasses & Forbs Bare ground Surface gravel Surface cobble and ston Litter (percent) Litter (average depth in	cm.)	$ \begin{array}{r} 30 - 35 \\ \hline 20 - 25 \\ \hline 0 \\ \hline 0 \\ \hline 20 - 25 \\ \hline 4 \end{array} $			
Plant Community Annual Production (by plant type): Annual Production (lbs/ac)					
Plant Type	Low	RV	High		
Grass/Grasslike	1,095	1,570	2,044		
Forb	120	172	244		
Tree/Shruh/Vine	165	237	308		

Plant Type	Low	RV	High
Grass/Grasslike	1,095	1,570	2,044
Forb	120	172	244
Tree/Shrub/Vine	165	237	308
Lichen			
Moss			
Microbiotic Crusts			
Total	1,500	2,150	2,800

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group	Scientific		Species Annual	Group Annual		
Number	Plant Symbol	Common Name	Production	Production		
1	ANHA	Sand Bluestem	323 - 430	323 - 430		
2	SCSC	Little Bluestem	323 - 430	323 - 430		
3	HENE5	New Mexico Feathergrass	323 - 430	323 - 430		
	HECO26	Needleandthread				
4	BOCU	Sideoats Grama	215 - 323	215 – 323		
5	BOGR2	Blue Grama	108 - 215	108 - 215		
	BOHI2	Hairy Grama				
6	SONU2	Indiangrass	108 - 215	108 - 215		
	PAVI2	Switchgrass				
7	ACHY	Indian Ricegrass	108 - 215	108 - 215		
8	SPGI	Giant Dropseed	65 - 108	65 - 108		
	SPCO4	Spike Dropseed				
	SPCR	Sand Dropseed				
9	2GRAM	Other Grasses	65 - 108	65 - 108		

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ERIOG	Buckwheat spp.	65 – 108	65 – 108
	HELIA3	Sunflower spp.		
	SPHAE	Globemallow spp.		
	MEMU3	Stickleaf		
11	2FORB	Other Forbs	65 - 108	65 – 108

Plant Type – Tree/Shrub/Vine

Group	Scientific		Species Annual	Group Annual
Number	Plant Symbol	Common Name	Production	Production
12	ARFI	Sand Sagebrush	108 - 215	108 - 215
13	YUCCA	Yucca spp.	65 - 323	65 - 323
	RHTR	Skunkbush Sumac		
14	2SD	Other Shrubs	65 - 108	65 - 108

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

	Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
-					

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: red lovegrass, sand muhly, threeawn spp., tumble lovegrass, paspalum, dryland sedge, hooded windmill grass, and silver bluestem. Other shrubs include: threadleaf groundsel and broom snakeweed.

Other forbs include: silky prairie clover, scrufpea, western ragweed, gilia, silverleaf nightshade, prickly poppy, and bladderpod.

Plant Growth Curves

Growth Curve ID 4909NM

Growth Curve Name: HCPC

Growth Curve Description: Warm-season mid-grassland with a major component of tall

grasses and cool-season grasses and forbs. Shrubs make up a

minor component.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:		
No Data.		

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations							
Soil Series	Hydrologic Group						
Church	D						
Dalhart	В						
Dallam	В						
Manter	В						
Otero	В						
Rickmore	C						
Spurlock	В						
Vingo	В						

Recreational Uses:

Recreation potential is limited due to the lack of access roads for two-wheel drive vehicles, lack of live water and lack of shade. The terrain typical of the "wide open spaces" of the area enhances aesthetic appeal. Hunting for upland game birds and antelope is fair. The natural beauty is enhanced by the variety of flowering plants that bloom from early spring to fall and varying color hues of vegetation as it matures.

Wood Products:

This site has no significant wood production potential.

Other Products:

Grazing:

This site can be grazed any season of the year by all classes of livestock, generally without regard to age. However, it is most efficiently utilized by cattle. The variety of grasses, forbs and half-shrubs furnishes good nutrition to grazing animals during most seasons of the year. Approximately 90 percent of the annual production furnishes forage for grazing animals. Continuous grazing or grazing continually during the period from April through October by cattle will result in a plant community dominated by low forage value species such as sand dropseed, sand sagebrush, yucca and threeawn spp. Sand sagebrush and yucca may increase to the extent that they become the dominant vegetation. A system of deferred grazing, which varies the season of grazing and rest is needed to maintain or improve a healthy well-balanced plant community. Rest in different seasons benefits different plants. Winter rest will benefit all woody species. Spring rest (April-June) encourages forb production and will benefit New Mexico feathergrass and needleandthread. Summer rest (July-September) benefits warm-season grasses such as sand bluestem, sideoats grama, and little bluestem to grow and reproduce. Fall rest allows plants to complete their growth cycle. New Mexico feathergrass and needleandthread is utilized readily by cattle in the spring and fall and least utilized in the summer when the awns interfere with utilization and may injure cattle. Although utilization in June is detrimental to stands of needleandthread and New Mexico feathergrass, a quick, moderate cropping when the heads are in the boot stage of development, can remove the heads and prevent subsequent interference and injury to cattle by the awns. For this purpose, the timing and degree of use must be determined on limited areas, preferably when soil moisture is adequate for regrowth, and should be followed by a period of deferment.

Other Information:								
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month								
Similarity Index	Ac/AUM							
100 - 76	1.8 - 3.0							
75 – 51	2.3 – 4.3							
50 – 26	3.0 - 8.6							
25 – 0	8.6+							

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

		Plant		Forage Preferences										
Common Name	Scientific Name	Part	J	F	M	A	M	J	J	A	S	О	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	P	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Sand Bluestem	Andropogon hallii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Indiangrass	Sorghastrum nutans	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Switchgrass	Panicum virgatum	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

Animal Kind: Livestock
Animal Type: Horse

		Plant	Forage Preferences												
Common Name	Scientific Name	Part	J	F	M	A	M	J	J	A	S	О	N	D	
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P	
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	P	D	D	D	D	
Indiangrass	Sorghastrum nutans	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Sheep

		Plant	Forage Preferences											
Common Name	Scientific Name	Part	J	F	M	A	M	J	J	A	S	О	N	D
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	D	D	D	D	D	D	D	D
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites: Site Name Site ID **Site Narrative** Similar sites: **Site Name** Site ID Site Narrative **State Correlation**: This site has been correlated with the following sites: **Inventory Data References: Data Source** # of Records Sample Period County State **Type Locality**: **State:** New Mexico County: Colfax, Harding, Union Latitude: Longitude: Township: Range: Section: Is the type locality sensitive? No Yes **General Legal Description**: **Relationship to Other Established Classifications**: Other References: Data collection for this site was done in conjunction with the progressive soil surveys within the Southern High Plains 77 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Union, Harding Colfax. Characteristic Soils Are: Dallam Vingo Rickmore Other Soils included are: Church, Dalhart, Manter, Otero, Spurlock Seelize Site Description Approval: Author Date Approval Date Don Sylvester Donald H. Fulton 05/23/84 06/13/84 Site Description Revision: Author Approval Date Date Elizabeth Wright 06/10/01 George Chavez 12/18/02